Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DONALD L. CHUBB and PHILLIP JENKINS

Appeal No. 2003-0730
Application No. 09/323,650

ON BRIEF

Before KIMLIN, KRATZ and MOORE, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-17.

Claim 1 is illustrative:

1. An optical temperature sensor, said sensor comprising:

an emitter having a selective energy emission band, said emitter converting thermal energy to energy within said emission band in response to a temperature of said emitter;

a light pipe having a first end and a second end, said first end communicating with said emitter;

an optical bandpass filter communicating with said second end, said filter having a pass band within said emission band; and

a detector communicating with said filter, said detector detecting said emitted energy as a measure of said temperature.

The examiner relies upon the following references in the rejection of the appealed claims:

Stone	4,523,315	Jun. 11, 1985
Dils	4,576,486	Mar. 18, 1986
Readhead	4,625,389	Dec. 02, 1986
Tregay	4,794,619	Dec. 27, 1988
Rose et al. (Rose)	5,447,786	Sep. 05, 1995
Milstein et al. (Milstein)	5,601,661	Feb. 11, 1997

Appellants' claimed invention is directed to an optical temperature sensor comprising, inter alia, an emitter having a selective energy emission band. According to appellants, "the emitter emits energy within the emission band in response to the temperature of the emitter 12" (page 2 of Brief, fifth paragraph).

Appealed claims 1, 10, 13, 16 and 17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Dils. The claims on appeal stand rejected under 35 U.S.C. § 103 as follows:

(a) claims 2, 3 and 6 over Dils in view of Rose;

(b) claims 4, 5 and 7-9 over Dils in view of Milstein;

(c) claim 11 over Dils in view of Stone;

(d) claim 12 over Dils in view of Tregay; and

(e) claims 14 and 15 over Dils in view of Readhead.

Appellants have not set forth separate groupings of the claims under the appropriate heading at page 4 of the Brief. Accordingly, the groups of claims separately rejected by the examiner stand or fall together.

Upon thorough review of the opposing positions advanced by appellants and the examiner, it is our judgment that the examiner's rejection of claims 1, 10, 13, 16 and 17 under 35 U.S.C. § 102 over Dils is well-founded. Like appellants, Dils describes an optical temperature sensor comprising an emitter having a selective energy emission band, i.e., blackbody cavity 12. Appellants contend that the claimed "selective emitter is the antithesis of a blackbody" (page 6 of Brief, second paragraph). Appellants further submit that "[t]he selective emitter does not emit energy at a wavelength that is a function of the emitter's temperature" (id.). However, as explained by the examiner, appellants' arguments are not germane to the claimed subject matter. Appealed claim 1 does not define a "selective emitter" but, rather, "an emitter having a selective energy emission band." As noted by the examiner, the emitter of the optical temperature sensor disclosed by Dils "emits radiation in the wavelength band of 0.3 μm to 1.0 μm for temperature measurement in the range of 500°-2400°C, as stated in the

abstract, and this wavelength band is considered to correspond to the term 'selective energy emission band'" (page 4 of Answer, second paragraph). We note that appellants have not refuted the rationale of the examiner, which is reasonable on its face. Appellants have not explained how the blackbody cavity of Dils does not qualify as an emitter having a selective energy emission band. Accordingly, we will sustain the examiner's § 102 rejection.

We will also sustain the examiner's § 103 rejections of claim 11 over Dils in view of Stone, of claim 12 over Dils in views of Tregay, and claims 14 and 15 over Dils in view of Readhead. Appellants' arguments with respect to these rejections are based on their argument relative to the § 102 rejection over Dils. No separate arguments have been advanced regarding the features recited in claims 11, 12, 14 and 15.

We will not sustain the examiner's § 103 rejections of claims 2, 3 and 6 over Dils in view of Rose, and of claims 4, 5 and 7-9 over Dils in view of Milstein. In our view, the examiner has not established that one of ordinary skill in the art would have found it obvious to substitute the materials recited in claims 2-9 for the material of Dils in making an optical temperature sensor. The examiner relies upon the Rose disclosure

at column 2, lines 11-14, namely, "intensity of a given wavelength radiated by a black-body is a function of the temperature, and it is this temperature which also will determine the efficiency of selective line emitters." However, the examiner has not explained how, if the efficiency of a selective line emitter is dependent upon the temperature, one of ordinary skill in the art would have reasonably expected that a selective line emitter would have sufficient efficiency over a range of temperatures such that it can function in an optical temperature sensor. We note that Rose also teaches that "the intensity at a particular wavelength is exponential in temperature which should result in a strong temperature dependence for line emission" (column 2, lines 18 and 19). Rose further discloses that "[a]t short wavelengths, in the ultraviolet region of their spectrum, these rare oxides tend to have high emissivity, but these modes are only excited efficiently at extremely high temperature" (column 2, lines 25-28). Rose even further discloses that "[s]ince the efficiency of various emitters varies with temperature, it follows that the nature of the structure-forming fiber may depend on the particular rare earth metal compound in the composite and the temperature at which the composite is contemplated to be used" (column 7, lines 58-62). As urged by

appellants, neither Rose nor Milstein offers any suggestion that the disclosed emitters can be effectively used as an optical temperature sensor. In addition, the examiner has not established that the uses disclosed by Rose and Milstein would have been understood by one of ordinary skill in the art to correlate to use as an optical temperature sensor.

In conclusion, based on the foregoing, the examiner's decision rejecting the appealed claims is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

EDWARD C. KIMLIN)
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PETER F. KRATZ) BOARD OF PATENT
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